

5 a second disk drive, the first and second disk drives each having data separator
6 electronics, data formatting electronics and head positioning electronics; and
7 a striping controller coupled between the interface and the first and second disk
8 drives, that causes data being transmitted between the system bus and the first and second
9 drives to be written to and read from the first and second drives in an interleaved form
10 and substantially in parallel.

1 20. · (Unchanged) The system of claim 19 wherein the data written to and read from
2 the first and second disk drives is interleaved so that even sectors are accessed on the first
3 disk drive and odd sectors are accessed on the second disk drive.

1 21. (Unchanged) The system of claim 19 wherein the data being transmitted between
2 the system bus and the first and second disk drives is subdivided into a plurality of
3 sequential blocks.

1 22. (Unchanged) The system of claim 21 the first disk drive is accessed for every
2 other block of data and the second disk drive is accessed for the remaining blocks.

1 23. (Unchanged) The system of claim 19 wherein the BIOS transmits a system
2 request that includes a sector bit string, a head bit string, a track bit string and a driver bit.

1 24. (Unchanged) The system of claim 23 wherein the striping controller maps bits of
2 the system request to a first system request data structure to be supplied to the first disk
3 drive and a second system request data structure to be supplied to the second disk drive.

1

- 1 25. (Amended) A method comprising:
2 receiving an IDE request from a Basic Input Output System (BIOS) at an IDE
3 interface via a system bus; and
4 writing to and reading from a first disk drive and a second disk drive in an
5 interleaved form and substantially in parallel in response to the IDE request.
- 1 26. (Unchanged) The method of claim 25 further comprising receiving the IDE
2 request at a striping controller.
- 1 27. (Unchanged) The method of claim 25 wherein writing to and reading from a first
2 disk drive and a second disk drive in an interleaved form comprises:
3 accessing even sectors on the first drive; and
4 accessing odd sectors on the second drive.
- 1 28. (Amended) A striping disk controller comprising:
2 an interface coupled to a system bus that receives requests from a Basic Input
3 Output System (BIOS) via the system bus; and
4 control logic coupled to the interface to cause data being transmitted via the
5 system bus to be written to and read from a first disk drive and a second disk drive in an
6 interleaved form and substantially in parallel.
- 1 29. (Unchanged) The controller of claim 19 wherein the data written to and read
2 from the first and second disk drives is interleaved so that even sectors are accessed on
3 the first disk drive and odd sectors are accessed on the second disk drive.

1 30. (Unchanged) The controller of claim 28 wherein the control logic subdivides the
2 data being transmitted via the system bus into a plurality of sequential blocks.

1 31. (Unchanged) The controller of claim 30 wherein control logic further accesses the
2 first disk drive for every other block of data and accesses the second disk drive for the
3 remaining blocks.

1 32. (Unchanged) The controller of claim 28 wherein the control logic receives a
2 system request that includes a sector bit string, a head bit string, a track bit string and a
3 driver bit.

1 33. (Unchanged) The controller of claim 32 wherein the control logic maps bits of the
2 system request to a first system request data structure to be supplied to the first disk drive
3 and a second system request data structure to be supplied to the second disk drive.

1 34. (Unchanged) The controller of claim 28 wherein the control logic receives a
2 system request intended for a single physical drive from the system bus.

1 35. (Amended) A system comprising:
2 a central processing unit (CPU) that executes an operating system including a
3 Basic Input/Output Operating System (BIOS);
4 a system bus coupled to the CPU;
5 an IDE interface coupled to the system bus that receives requests from a Basic
6 Input Output System (BIOS) via the system bus;
7 a striping controller coupled to the IDE interface;
8 a first storage device coupled to the striping controller; and

9 a second storage device coupled to the striping controller;
10 the striping controller, based on a standard IDE driver instruction, causes data
11 being received to be written to and read from the first and second storage devices in an
12 interleaved form and substantially in parallel.

1 36. (Unchanged) The system of claim 35 wherein the data written to and read from
2 the first and second drives is interleaved so that even sectors are accessed on the first
3 storage device and odd sectors are accessed on the second storage device.

1 37. (Unchanged) The system of claim 35, wherein the striping controller comprises:
2 an exclusive-or (XOR) gate coupled to the IDE interface;
3 a first FIFO memory coupled to the XOR gate and driven by a signal from the
4 XOR gate to access the first storage device; and
5 a second FIFO memory coupled to the XOR gate and driven by the signal from
6 the XOR gate to access the second storage device.